

**Environment Canada Comments on the 2012 Puget Sound Partnership
Action Agenda and Science Plan 2011 – 2013
February 3rd, 2012**

General Comments on the 2012 PSP Action Agenda

Strategies and sub-strategies	Consistent use of these terms to describe elements of the Action Agenda would contribute to a framework that is more easily understood and reviewed. The terms "strategies" and "sub-strategies" appear to be used interchangeably. Future Action Agenda updates and near term implementation may benefit from a framework in which there is greater consistency in what these terms refer to.
Proposed near term actions	<p>It seems a number of the near term actions (NTAs) overlap strongly with the items on the Science Plan. However, NTAs are not worded clearly enough to determine whether these are the same or interdependent items. As the Science Plan exists as a separate document, some NTAs may be duplicating Science Plan items. If they are interdependent, the timeline seems questionable. For example:</p> <p style="padding-left: 40px;">A1.1 NTA2 (page 37) -- "By 2012, the PSI will work with ...other partners to develop a tool to improve and support spatial landscape data collection, sharing and analysis to improve the ability of agencies to make land use decisions based on watershed assessments."</p> <p style="padding-left: 40px;">...seems very similar to the following Science Plan items (page 16-17)</p> <p style="padding-left: 40px;">"- Complete watershed assessment tools...</p> <ul style="list-style-type: none"> - Develop decision support tools to assist in resolving ambiguities or conflicts...among the different watershed characterization tools - Improve the assessment tools by incorporating additional characteristics of the ecosystem and ecosystem services that are not in the initial tools - Incorporate social science research to ...link restoration science to management decision-making"
Ongoing programs	The Full Report should present an inventory of ongoing programs to facilitate identification of critical gaps. The Science Plan (Appendix B for recently completed and ongoing research; Appendix D for state monitoring programs), does tabulate ongoing programs, however, these appear to be science related research and monitoring issues only. There may be some ongoing programs outside the science domain which should be included.
Target views and results chain diagrams	It's hard to know whether the items in the diagrams will really accomplish what's needed as there are so many steps along the chains that may be broken. It's notable that a number of Science Plan items aim to increase understanding around restoration actions. It remains to be seen whether these chains, if carried out from beginning to end, would indeed result in the desired outcomes. In general, the resolution of the diagrams is low making them difficult to read.
Proposed prioritization approach	The prioritization approach is intended to evaluate proposed NTA for the Action Agenda. However without clear linkages to Science Plan items and ongoing programs, the prioritization may not be adequately informed. Science Plan items have already been vetted through a prioritization process. If we can assume that results of the Science Plan are forthcoming, this could be used as a level of screening or refinement for some near term actions. Currently, some NTAs seem very similar to some Science Plan items. Although we suggest that duplication should be reduced, interdependencies and extensions of work from the Science Plan to the Action Agenda and vice versa

	<p>should be promoted. Similarly, the value and relevance of some ongoing programs may increase due to specific NTAs and the significance of such linkages should be factored into prioritization.</p> <p>The areas of information proposed for the prioritization are too numerous. Consider focusing on scope, effectiveness, geographic extent and implementation in an incremental way. If NTAs are unrelated to recovery targets and are not expected to be effective, there is no need to consider the geographic extent or implementation of the NTAs.</p> <ul style="list-style-type: none"> • <u>Scope</u> -- All NTAs should have a strong link to recovery targets. Consider revising criterion 2 to reflect PSP's values in NTAs with high relevance to a single target vs weaker relevance to many targets. A separate criterion should evaluate expected effectiveness. The rankings as currently defined in the draft present a bit of a challenge. It is clear what would result in a more favourable ranking. It is more difficult to sincerely attribute NTA toward percentages of progress toward a target. Indeed, some of the Science Plan actions propose measuring the effectiveness of various protection and restoration efforts. • <u>Effectiveness</u> -- Criteria 1, 3 and 5 could be consolidated into a single category that evaluates NTAs for their expected effectiveness in achieving recovery targets which are already grouped by ecosystem components and pressures. Perhaps the Science Panel could provide advice for rankings on effectiveness. • <u>Geographic Extent</u> -- It is unclear why the PSP would prioritize sound wide actions higher than local actions when Local Action Agendas are a new feature of the current PSP Action Agenda. Definitions for Criterion 4 rankings should reflect the nature of ecosystem pressures within the Puget Sound. For instance, NTA associated with habitat specific invasive species may erroneously receive a lower ranking by virtue of the problem, not the NTA itself. Efforts to reduce point sources of pollutants may similarly be ranked lower despite their importance. Furthermore, NTA associated with Local Action Agendas should be recognized for their value as much as sound wide actions. Where it is possible for PSP to identify similar actions occurring in multiple Local Action Agendas, this may be notable. • <u>Implementation</u> -- Technical feasibility (criterion 9) and readiness to implement (criterion 10) are each important considerations after it has been determined that NTAs are worth considering. Costs (criterion 8) and benefits to human wellbeing (criterion 6) and economic health (criterion 7) should similarly be considered after it is recognized NTAs are relevant to recovery goals, expected to be effective and feasible. Valuation of ecosystem goods and services should influence decisions at this point as well; however, such data may not be widely available in the near term.
Other comments	EC's original comment that there is no explicit upfront mention of the West Coast Governors Agreement still stands (beyond what is in Appendix C, P. 476). Since British Columbia has signed on to this Agreement, it is a great opportunity to capitalize on, as it has explicitly stated goals.
	As per our comments regarding the 2008 PSP Action Agenda, EC's concerns with respect to working resource lands have been adequately addressed.
	The discussion about giving information and tools to local governments should reference our <i>Green Bylaw Toolkit</i> to illustrate that many jurisdictions around the world are seeing value of having these tools available for local governments.
	We would like to see exploration of the idea of cooperative baseline mapping such as

	using the BC Shorezone Mapping that is exactly comparable to that done for Washington and Alaska.
	We believe that it's a good idea to coordinate funding programs (such as for acquisition of conservation areas) so that they align with Sound-wide objectives. However, it would also be beneficial to ensure that all existing and new conservation areas are mapped at a very fine scale. We have done this for the conservation areas in BC and now share a single database with our conservation partners. Having certainty over the boundaries helps with planning and reporting at multiple scales.
	EC's original suggestion that cooperation on ways to protect existing conservation areas from sea level rise, and how to choose new ones, still stands. This needs to be more explicitly stated.

Comments on Executive Summary

The Executive Summary is a lengthy summary of a far longer report. Although tables pull out highlights of the Full Report, we found inconsistencies between the two.

PSP Vital Signs	The EPA-EC Transboundary Indicators project has updated its report to reflect metrics that correspond to the vital signs indicators. Stronger communication between the PSP and transboundary agencies could extend the reach of the PSP indicators to facilitate cross border collaboration on the Salish Sea.
Strategies, Actions, Science Questions, Targets and Goals	<p>There seems to be a nested structure of terms used by authors of the reports. Increased consistency in how strategies, actions and questions are described and referenced would allow readers to compare dependencies among questions, actions and strategies. Examples:</p> <ul style="list-style-type: none"> • Science Questions (Table 1, Page 5-6) -- The "Proposed Priority Science Questions from 2011-2013" are good strong questions whose answers may serve to support further Action Agenda items, however according to the Science Plan, these are Actions, not questions. It is not clear from the drafts whether the Science Questions/Actions would be answered in a process independent of the Action Agenda, although answers to some of the Science Questions could be instrumental in identifying or prioritizing near term actions. If Science Questions are to be addressed from 2011-2013, there may not be much time left to complete protection and restoration actions proposed during the same period. • Strategies -- There is reference to strategies in the Executive Summary, Full Report and Science Plan, however it seems that among the three drafts and even within a single draft, strategies refer to different levels of information. Page 10 of the Executive Summary lists 3 broad subsections of strategies and actions, table 4 of the Executive Summary lists 60 key strategies, and table 5 of the Executive Summary refers to 4 strategies (A, B, C, D), the Full Report refers to 4 subsections of Strategies and Actions (page 16-27), and the Science Plan refers to many more "strategy sections" which are apparently organized in a way that is consistent to the Action Agenda.
Strategy A, Subtask 1.1, NTA#2 (Page 16)	In the development of a tool for spatial landscape data collection, sharing and analysis, consider extending the geographic scope of the project north of the border to the Georgia Basin, particularly where transboundary patterns of land cover and uses may be affecting transboundary water bodies, species and habitat. Currently, EPA and EC are looking to collaborate on the use of comparable methods to generate high resolution land cover change data using technology innovated by the WA Dept of Fish and Wildlife.

Strategy A, Subtask 3.2, NTA#1 (Page 17)	To support the creation of a Comprehensive Conservation and Ecosystem Service Market, consider linkages to the Canadian interdepartmental project known as "MEGS" (Measuring Ecosystem Goods and Services) to develop the statistical infrastructure to support the valuation of ecosystem goods and services. EC is the lead department for MEGS with funding provided to Statistics Canada and support from the Department of Fisheries and Oceans, Natural Resources Canada, and Agriculture and AgriFood Canada.
Strategy A, Subtask 5.1, NTA#2 (Page 18)	The work of EC's climatologist Stewart Cohen in visualizing climate change adaptations coupled with the work of MEGS could be considered in PSP's NTA to gather data on public perception of flood risks, and the economic and social benefits/services of preserving and restoring floodplain functions.
Strategy A, Subtask 8.3, NTA#1 (Page 21)	Ecology should consider working with Canadian partners in the development of groundwater management programs for transboundary aquifers such as the Abbotsford-Sumas Aquifer. An Environmental Cooperation Agreement was signed by BC and WA in 1992 to create an international task force to coordinate groundwater protection efforts in the aquifer region.
Strategy D, Subtask 3.1, NTA#1 (Page 35)	A GIS based reporting system to support Vital Signs would be a great step in the right direction. In the development of transboundary indicators, cross border comparisons would be greatly facilitated by increasing access to the data through the Vital Signs site. To date, we have had to access data through specific Vital Signs authors which creates extra work for the authors. Frequently, the response time is long and sometimes there is no response at all. Increased data access through a GIS system would improve the ability to update the indicators efficiently.

Detailed Comments on the PSP Action Agenda (Full Report)

P.100	The description of Spartina "... cord grass that severely disrupts the ecosystems of native saltwater estuaries" could be improved as there are much better descriptions available.
P. 102	EC supports a shift away from single species management to ecosystem based management. In addition to species at risk there should be a discussion of "keeping common birds common" and the transboundary opportunities and work already underway through Bird Conservation Regions (BCRs) and the Pacific Coast Joint Venture.
P. 103	The discussion of biodiversity strategies is useful.
P. 105	There is an opportunity to mention the <i>Green Bylaws Toolkit</i> in the discussion with Biodiversity Conservation Toolbox for Land Use Planners.
P. 107	We are disappointed by the lack of mention of opportunities for cooperation over invasive species between BC and Washington. Success stories such as Spartina on the US side and the ongoing threat from re-infestation from the BC side should be highlighted.
P. 116	There should be specific mention that MPA planning should not be done in isolation from planning done for terrestrial protected areas.
P.125 and 138	Although the idea behind GreenShores (p.125 and 138) has been expanded as originally suggested by Environment Canada (in our comments related to the 2008 PSP Action Plan), we would prefer to see more action items stemming from this, as opposed to the brief mention that some BC-Washington work is occurring.

P. 150	Any discussion on workshops and consultation with experts on effective eelgrass restoration techniques should involve BC experts as well.
P. 151	In the objective to increase eelgrass, there is no mention of the two species. This is important, as one species is native, while the other is non-native. Some people view the non-native species as a threat, others do not.
P. 252- 4	While some text has been added (p. 252-3) for BC (provincial and federal) being another jurisdiction that needs to be involved with emergency preparedness, joint exercises that already exist are not captured nor are opportunities for more collaboration identified. The experience with <i>Exxon-Valdez</i> and the sage advice from the biologists involved with post-effect studies that a good baseline can help with the legal issues, could be specifically highlighted (P. 254). The Action Agenda should be encouraging joint work on a baseline throughout the area given the busy shipping channels.
Strategic Leadership and Collaboration	<p>D2 (page 277 on strategic collaborative partnerships) -- Transboundary collaborative partnerships with Canadian, provincial and local initiatives north of the border could prove mutually advantageous. Both the Science Plan and Executive Summary identify many opportunities for cross border collaboration on science initiatives and actions alike. Formal and adhoc collaborations on transboundary issues (e.g. migratory birds, marine survival of salmon, downscaling climate predictions and climate adaptations, transboundary watersheds) should be advocated.</p> <p>D1 (page 275 on leadership) -- As a result of the many opportunities for transboundary collaboration, consider Canadian representation on the Science Panel, Ecosystem Coordination Board and Local Implementation Organizations for areas adjacent to the border including the San Juan Islands, Skagit County Watershed, Strait of Juan de Fuca and Whatcom County WRIA 1.</p> <p>D3 (page 281 on performance measurement) -- A Canadian interdepartmental project is currently underway to value ecosystem goods and services, with a goal to reflect our natural capital in national accounts. Analysis of costs and benefits of key actions undertaken in the Action Agenda could include accounting for ecosystem goods and services restored as well as the economic returns for employment that is created.</p> <p>D4 (page 282 on science and monitoring) -- Consider science partnerships, collaborative monitoring and data sharing arrangements with Canadians. The Department of Fisheries and Oceans recently completed a 5 year Ecosystem Research Initiative on the health and functioning of the Strait of Georgia. Parks Canada and the BC Ministry of Environment recently announced a proposed boundary for consultation on the Southern Strait of Georgia National Marine Conservation Area Reserve. Cross border collaboration and information sharing on issues related to science and monitoring would be mutually beneficial to all working in the transboundary Salish Sea.</p> <p>DFO's Ecosystem Research Initiative on the Strait of Georgia: http://www.pac.dfo-mpo.gc.ca/science/oceans/detroit-Georgia-strait/index-eng.htm</p> <p>Parks Canada's consultation on the Southern Strait of Georgia National Marine Conservation Area Reserve: http://www.pc.gc.ca/progs/amnc-nmca/cnamnc-cnmca/dgs-ssg/index_e.asp</p>

Local Action Agenda in the San Juan Islands (page 337)	<p>We are encouraged to see recognition of the influence of the Fraser River in BC on waters in San Juan County. Also encouraging is recognition on the need to work with Canada on oil spill prevention and readiness programs within Puget Sound. A Marine Manager Workshop on Major Oil Spills in 2012 is a good way to facilitate Canadian cooperation on the topic. To support the NTA on shoreline development, consider the GreenShores program which Environment Canada's EcoAction program funded in partnership with other provincial and local organizations. Greenshores provides tools for sustainable planning and development of coastal systems.</p> <p>Greenshores Program: http://www.greenshores.ca</p>
Local Action Agenda in Skagit County/Watershed (page 346)	<p>The Skagit Environmental Endowment Commission includes representation from British Columbia and Seattle City Council to administer an Endowment Fund whose purpose is "to conserve and protect wilderness and wildlife habitat" and "to enhance recreation opportunities" in the Upper Skagit Watershed. The Commission has established an ecosystem management plan which may yield commonalities with the provisional NTAs presented in the absence of a Local Integrating Organization.</p> <p>Skagit Environmental Endowment Commission: http://skagiteec.org</p>
Local Action Agenda in the Strait of Juan de Fuca (page 396)	<p>Further work is required to complete this section of the PSP Action Agenda. The Strait Ecosystem Recovery Network proposes a lengthy suite of strategic priorities and priority NTAs extensively linked to PSP's recovery targets. Terminology about packaged NTAs intermingles with strategic priorities and priority actions, making it challenging to discern, review and critique individual elements. Some questions that come to mind:</p> <ul style="list-style-type: none"> • ID#6 -- What does monitoring entail? Enumeration, fish health assessment and population dynamics? What are the habitat restoration projects? • ID#18 -- What is included in the North Olympia Peninsula's LE 3 year work plan? What is LE? Does the workplan include the Elwha revegetation project, Dungeness River floodplain restoration and Elwha ELJs? What is an ELJ? What is included in the Hood Canal Coordinating Council's LE 3 year work plan? • ID#15 -- We are encouraged to see transboundary coordination on oil spills as a packaged priority NTA. However, the difference between "support transboundary coordination on oil spills" and "participate on cross partnership oil spill workgroup" is unclear. What action is associated with Geographic Response Plans data and are these specific to oil spills or all environmental emergencies within the area? What is the work to expand drills along the Strait of Juan de Fuca and coast?
Local Action Agenda in Whatcom County and WRIA 1 (page 412)	<p>Further work is required to complete this section of the PSP Action Agenda. From the link provided in the report, it seems that local actions have been proposed. It is disconcerting that the Action Agenda Strategies tab refers to similar sounding strategies whose numerical references are different from the current draft AA. Linkages to Recovery Targets need to be identified. Ownership and accountability over this Local Action Agenda is confusing. The organizational chart suggests the Whatcom Local Integrating Organization (LIO) team would report through the WRIA 1 Management Team to WRIA 1 Policy Boards yet the text describes the WRIA 1 Policy Boards to be the LIO.</p>

Appendix C, examples of ongoing collaboration with Canada (page 476)	<p>This overview of the PS National Estuary Program Management Conference resembles proceedings which may already be published. If not, a few updates should be made to the section on Canada as an interest based organization and collaboration.</p> <p><u>Transboundary Indicators</u> -- Under the auspices of the SOC, the Transboundary Ecosystem Indicators project was created to establish a common understanding of transboundary ecosystem priorities for action. Since its inception, two transboundary indicator reports were published in 2002 and 2005 to share knowledge on the health of the Puget Sound Georgia Basin. The US Environmental Protection Agency (EPA) Region 10 and Environment Canada's Pacific and Yukon Region are in the process of updating these reports, expanding the suite of indicators and increasing its relevance to ecosystem health including human wellbeing.</p> <p><u>Environmental Cooperation Agreement</u> -- This agreement was signed on May 7, 1992 by Mike Harcourt, Premier of BC and Booth Gardner, Governor of Washington State in Olympia.</p> <p><u>Other examples</u> -- Coast Salish Gatherings, Georgia Basin/Puget Sound International Airshed Strategy, Pacific and Northwest Economic Region forum, Pacific Northwest Environmental Directors forum.</p>
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Comments on the Science Plan 2011 – 2013

We believe that the 48 high priority science actions make sense. They are fundamental to understanding how the Puget Sound works and addressing key threats to the ecosystem. The approach to prioritization is logical, as it is appropriate to take action on areas for which science is lacking and gaps are hindering policy decisions, protection and restorative action.

Linkages to the Action Agenda	Connections between science actions and Action Agenda Items could be made clearer. Which Action Agenda items are dependent on the 48 science actions? Given their critical role for enabling subsequent Action Agenda items, are they guaranteed funding and if not, are the Action Agenda items associated with these science actions to be modified or rejected?
Figure 3 (Page 6)	It is not obvious as to why a numerical comparison of recently completed and ongoing studies vs. recommended studies was conducted. Was the subject matter evaluated?
Downscaling Climate Projection (Page 9-10)	The Pacific Climate Impacts Consortium is a regional climate service centre at the University of Victoria that conducts quantitative studies on the impacts of climate change and climate variability. Their work which includes climate model downscaling for the Pacific region may be of interest for the Science Plan.
Strategy A5 (Page 17)	Similar to the PSP, there is an interdepartmental Canadian group working on the "Measuring Ecosystem Goods and Services" (MEGS) Project with an interest in valuing ecosystem services attributable to floodplains and wetlands: http://www.gclopedia.gc.ca/wiki/Measuring_ecosystem_goods_and_services .
Strategy A9 (Page 18) and Strategy B7 (Page 20-21)	<p>Linkages to two programs at the Canadian Department of Fisheries and Oceans may be advantageous.</p> <ul style="list-style-type: none"> • Wild Salmon Policy: http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especies/salmon-saumon/wsp-pss/index-eng.htm • Ecosystem Research Initiative for the Strait of Georgia: http://www.pac.dfo-

on food webs and managing humans in ecosystems)	mpo.gc.ca/science/oceans/detroit-Georgia-strait/index-eng.htm
Strategy B7 (Page 21 on marine birds)	Transboundary collaboration with EC would be advantageous as we have a mandate to protect migratory birds, species at risk (including birds) and wildlife habitat.
Strategy B7 (Page 21 on nutrient sources)	Nitrogen nutrient sources and sinks in the Juan de Fuca, Strait of Georgia and Puget Sound were assessed and reported in 1997 by Mackas DL and PL Harrison in Estuarine, Coastal and Shelf Science. 44-1-21.
Strategy C1 (Page 22 on toxics)	Recommendations for actions to address toxics in the Georgia Basin and Puget Sound were published in 2010 by Chris Garrett in a report to the Puget Sound Georgia Basin International Task Force. If there is difficulty locating the report, Environment Canada can assist.
Strategy C2 (Page 23 on runoff)	This strategy suggests weakness in use of the PS Benthic Index of Biotic Integrity to evaluate stormwater management and other efforts to protect and restore stream function. Consider applying the Reference Condition Approach used across Canada including streams in neighbouring Georgia Basin.
Strategy C9 (Page 24 on shellfish) and Strategy C11 (Page 25 on cumulative water pollution)	The application of Pollution Identification and Correction programs to identify and fix nonpoint pollution problems would benefit ecosystem goods and services beyond shellfish harvesting. Primary contact recreation and other aquatic biota may benefit as well. Similarly, action on cumulative water pollution will benefit uses beyond contact recreation.
Strategy D1 (Page 26 on frameworks)	A taxonomy of pressures and threats would help to standardize the terminology used to describe factors and facilitate a more consistent framework for actions. Currently, synonymous terms are used to describe similar concepts and varying definitions seem to exist for the same terminology. Consider the nomenclature advocated by the International Union for Conservation of Nature and Conservation Measures Partnership: http://iucn.org/about/work/programmes/species/red_list/resources/technical_documents/new_classification_schemes/
Strategy D7 (Page 27 on human dimensions)	As described earlier for strategy A5, linkages with the interdepartmental Canadian group working on the "Measuring Ecosystem Goods and Services" (MEGS) Project may support strategy D7. Also consider the Canadian index of wellbeing, developed at Canada's University of Waterloo within the Faculty of Applied Health Sciences. The index tracks 8 interconnected categories including environment, population health, community vitality and engagement. Link: http://ciw.ca/en/
Summary of Priority Science Actions (Page 31-32)	Linkages to the Action Agenda could be described in this section. Among the 5 kinds of science actions presented in the Science Plan, describe how each is integral to the Action Agenda. Many if not all are directly relevant to many Action Agenda items. Implementation plans should factor in timelines needed to generate science to inform the Action items.